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Docket No.: 9988.057.00
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
In Hee Han

Customer No.: 30827

Application No.: 10/660,732

Confirmation No.: 2748

Filed: September 12, 2003

Art Unit: 3749

For: STRUCTURE OF MOTOR SHAFT IN
CLOTHES DRYER

Examiner: Stephen M. Gravini

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANTS' REPLY BRIEF

Sir:

In response to the *Examiner's Answer* dated March 25, 2008, the period of response being extended to May 27, 2008, as May 25 fell on a Sunday and May 26 was a Federal Holiday, Appellants submit this Reply Brief for consideration by the Honorable Board.

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This Reply Brief contains items under the following headings as required by MPEP §1208(I) and 37 C.F.R. § 41.37(c):

- I. Status of the Claims**
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I. STATUS OF CLAIMS

Total Number of Claims in the Application.

There is one claim pending in this application.

Current Status of Claims:

Claims canceled: 1-8 and 10.

Claims withdrawn from consideration but not canceled: None.

Claims pending: Claim 9.

Claims allowed: None.

Claims rejected: Claim 9.

Claims on Appeal: The claim on appeal is claim 9.

II. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

(A) Whether claim 9 is properly rejected under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement.

(B) Whether claim 9 is properly rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 2,547,238 (hereinafter *Tremblay*) in view of U.S. Patent No. 5,664,936 (hereinafter *Cunha*).

(C) Whether claim 9 is properly rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 6,874,248 (hereinafter *Hong*) in view of *Cunha*.

III. ARGUMENT

(A) The Examiner improperly rejected claim 9 under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement.

In setting forth the rejection, the Examiner asserts that the recitation of “a motor shaft includes chamfers parallel to each other” in claim 9 is not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. See *Examiner’s Answer* at page 3.

1. Support for claim 9 can be found in at least ¶ [0023]-[0033] & Figures 4-5

Appellants traverse the Examiner’s allegations. Support for at least a motor shaft that includes chamfers parallel to each other, as recited in claim 9, can be found in at least ¶ [0023]-[0033] of *Appellants’ specification*, as well as Figures 4-5.

For example, Appellants submit that Figure 5 illustrates a cross section of the motor shaft 500. Appellants’ Figure 5, which should be taken together with the corresponding written description, clearly illustrates that the motor shaft 500 includes chamfered parts 500a, which are parallel to each other. That is, Appellants’ Figure 5 clearly and fully supports Appellants’ recitation of “a motor shaft [that] includes chamfers parallel to each other,” as recited in claim 9. Moreover, *Appellants’ specification* further explains on several occasions that element 500 is a motor shaft and element 500a are chamfered parts.

Additionally, Appellants submit that Figure 4 also illustrates a motor shaft 500 in which chamfered parts 500a are clearly illustrated around the cross section markings, designated as II-II. Again, Appellants submit that Appellants’ Figure 4, taken together with the corresponding written description, fully support the claim recitation of “a motor shaft [that] includes chamfers

parallel to each other,” as recited in claim 9. In the *Examiner’s Answer*, the Examiner never disputes the fact that there is clear support for Appellants’ claimed features in Figures 4 and 5, taken individually or in combination.

Furthermore, Appellants submit that ¶ [0032] discloses the following: “ In this instance, since the motor shaft 500 of the present invention has the chamfered parts 500a in the shaft, the chamfered parts 500a can be clamped with a tool, such as a spanner, to prevent the motor shaft from turning....” As aforementioned, the inclusion of the reference number 500a clearly indicates that an illustration of the corresponding element (chamfered parts) accompanies the discussion of this element. In this case, the reference number 500a is clearly illustrated in Figure 5 as parallel chamfers of a motor shaft. Additionally, Appellants’ written description indicates that Figure 5 illustrates a section of a motor shaft across line II-II of Figure 4. See *Appellants’ specification*, for example, at ¶ [0024], [0028], and [0032]. Thus, when reading ¶ [0032] in context (e.g., Figures 4-5), it becomes readily apparent that the motor shaft 500 includes chamfers parallel to each other, as recited in claim 9. Furthermore, Appellants’ paragraph [0032] indicates that “the chamfered parts 500a can be clamped with a tool, such as a spanner.” It is recognized that most spanners (e.g., a wrench) typically have jaws of parallel surfaces. Taking this into consideration, to be able to “clamp” two chamfered parts with a spanner, it is recognized that the chamfered parts would have to be parallel.

2. FIG. 5 relates to FIG. 4

In maintaining the 35 U.S.C. §112, first paragraph rejection, the Examiner argues that ¶ [0024] recites “Fig. 5 illustrates a section of a motor shaft across a line II-II in Fig. 3” and that “nothing in the originally filed specification relates Figure 5 to Figure 4.” See *Examiner’s Answer* at page 6.

Appellants respectfully disagree. In contrast to the Examiner's allegations, Appellants submit that there is evidence that relates Figure 5 to Figure 4 in *Appellants' specification*. As an example, Appellants submit that Figure 4 clearly refers to a cross section, designated as II-II, along motor shaft 500. Furthermore, Appellants submit that the description in Figure 5 of ¶ [0024] references the same cross section, which is designated by II-II. That is, Appellants' references to motor shaft 500 and cross section II-II links Figure 4 to Figure 5.

Moreover, the illustrations shown in Figures 3 and 5 are such that one could easily recognize that Figure 3 relates to Figure 2 and Figure 5 relates to Figure 4. In this regard, *Appellants' specification* clearly indicates that "Figure 3 illustrates a section of a motor shaft across line I-I of Figure 2. See *Appellants' specification* at ¶ [0022]. In other words, Figure 3 relates to Figure 2. The relation of Figure 3 to Figure 2 is consistent with the depiction shown in Figures 3 and 2. As such, Appellants are confused as to how the Examiner is rejecting claim 9 under 35 U.S.C. §112, first paragraph on the basis that ¶ [0024] should recite "FIG. 5 illustrates a section of a motor shaft across a line II-II in FIG. 4" instead of "FIG. 5 illustrates a section of a motor shaft across a line I-I in FIG. 3," especially when there are clear indications and evidence in the specification that FIG. 5 relates to FIG. 4, and FIG. 3 relates to FIG. 2.

3. Figures 4-5 and ¶ [0023]-[0033] support claim 9

In maintaining the 35 U.S.C. §112, first paragraph rejection, the Examiner argues that Figures 6-8 "do not appear anywhere in the application." See *Examiner's Answer* at page 7. Appellants respectfully submit support for claim 9 can be found, for example, in at least ¶ [0023]-[0033] of *Appellants' specification*, as well as Figures 4-5. As such, Appellants do not need to rely upon Figures 6-8 for additional support. Thus, the Examiner's argument regarding Figures 6-8 is moot.

4. ¶ [0032] relates to at least Figures 4-5

In maintaining the 35 U.S.C. §112, first paragraph rejection, the Examiner argues that ¶ [0032] “does not refer to figure 5, which is a section of prior art figure 3 in [0024], the written description does not meet the written description requirement such that claim 9 meets the requirements of the first paragraph of 35 USC 112.” See *Examiner’s Answer* at page 7.

Appellants disagree. Appellants submit that ¶ [0032] relates to at least Figures 4-5. Appellants submit that ¶ [0030] indicates that the “operation of the present invention will be described.” Appellants submit that ¶ [0032] then states that “since the motor shaft 500 of the present invention has the chamfered parts 500a in the shaft, the chamfered parts 500a can be clamped with a tool, such as a spanner, to prevent the motor shaft 500 from turning, thereby making the unfastening of the nut ‘N’ easy.” In other words, *Appellants’ specification* never limits the figures to which ¶ [0032] describes, and never indicates that ¶ [0032] does not describe Figure 5.

Moreover, Appellants submit that ¶ [0032] clearly refers to Figures 4-5. This is further evidenced by the fact that ¶ [0032] has direct references to chamfered parts 500a, which are illustrated in Figures 4-5.

Accordingly, claim 9 is fully supported by the specification. Moreover, *Appellants’ specification* has written support for these claimed features in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Therefore, the rejection under 35 U.S.C. § 112, first paragraph, is improper and should be reversed.

(B) The Examiner improperly rejected claim 9 under 35 U.S.C. §103(a) as being unpatentable over *Tremblay* in view of *Cunha*.

As required in Chapter 2143.03 of the M.P.E.P., in order to establish *prima facie* obviousness of the claimed invention, all the limitations must be taught or suggested by the prior art. However, *Tremblay* and *Cunha*, taken singularly or in combination, fail to disclose or suggest each and every element recited in claim 9.

In setting forth the rejection, the Examiner admits that *Tremblay* does not disclose “the claimed fan coupled with the motor shaft, wherein the motor shaft includes chamfers parallel to each other and configured for facilitating removal of the fan from the motor shaft.” See *Examiner’s Answer* at page 4. Thus, the Examiner relies upon *Cunha* to supply the deficiencies of *Tremblay*. Specifically, the Examiner asserts that *Cunha* discloses these claimed features at Figures 3 & 4 and column 2, lines 46-67. See *Examiner’s Answer* at page 4. Again, Appellants traverse the Examiner’s assertions.

1. *Cunha* does not disclose “chamfers parallel to each other and configured for facilitating removal of the fan from the motor shaft,” as recited in claim 9.

In maintaining his rejection, the Examiner alleges that “the flat portion of shaft end 20 includes a parallel chamfer beveled engaging recess 21 as shown in figure 3 and disclosed at column 4 line 46 through column 5 line 25.” See *Examiner’s Answer* at page 6.

Appellants disagree. *Cunha* discloses a fan mounting arrangement. See *Cunha* at Abstract. More specifically, *Cunha* discloses that the central hub-shaft end assembly is obtained by fitting at least one engaging projection 11 defined in the tubular central hub 10 to a respective engaging recess 21 preferably radial and provided in the adjacent shaft end. See *Cunha* at

column 2, lines 54-61. That is, *Cunha* discloses that an engaging projection 11 fits into an engaging recess 21, and not “chamfers parallel to each other.”

In addition, *Cunha* discloses that “the engaging recess 21 is also provided at the corresponding beveled region of the shaft end 20.” See *Cunha* at column 2, lines 54-61. That is, the engaging recess 21 is provided “at” the corresponding beveled region of the shaft end 20. In other words, the engaging recess 21 is provided within or “at” the beveled region. *Cunha*, however, is silent with respect to disclosing that the beveled region of the shaft end 20 includes a “parallel” engaging recess 21, as alleged by the Examiner.

Furthermore, claim 9 recites “chamfers...configured for facilitating removal of the fan from the motor shaft.” *Cunha* does not disclose these claimed features. In contrast, *Cunha* discloses securing a fan to a shaft. According to *Cunha*, Figures 3-4 illustrate an arrangement for mounting a pair of fans to a motor, in which the fan mounting arrangement is made by fitting a corresponding tubular central hub 10 to an adjacent shaft end 20. Specifically, *Cunha* discloses an engaging recess 21 of a shaft end 20, which is coupled to an engaging projection 11 of the fan’s central hub 10. However, the engagement recess 21 is not “configured for facilitating removal of the fan from the motor shaft,” as recited. Rather, the engaging recess 21 in the shaft is the means by which the fan is fixedly mounted to the shaft. See *Cunha* at column 2, lines 46-67 and Figures 3-4. That is, *Cunha*’s disclosure of an engaging recess 21 teaches away from the claimed chamfers, which are “parallel” and “configured for facilitating removal of the fan from the motor shaft.”

Therefore, the rejection under 35 U.S.C. §103(a) as being unpatentable over *Tremblay* in view of *Cunha* is improper and should be reversed.

(C) The Examiner improperly rejected claim 9 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of *Hong* in view of *Cunha*.

In setting forth the rejection, the Office admits that *Hong* does not disclose the “claimed chamfer portion.” See *Examiner’s Answer* at page 5. The Examiner thus relies upon *Cunha* for curing the shortcomings of *Hong*. However, Appellants can find no teaching of Appellants’ claimed features in *Cunha*.

In maintaining his arguments, the Examiner only addresses his obviousness type double patenting rejection with respect to *Hong* and *Cunha*. See *Examiner’s Answer* at page 12. However, Appellants submit that *Cunha* fails to disclose the claimed chamfers, as recited in claim 9, for at least each of the reasons submitted in Appellants’ arguments presented in section (B) of this Appeal Brief.

Therefore, the rejection under the judicially created doctrine of obviousness-type double patenting is improper and should be reversed.

VII. CONCLUSION

For at least each of the reasons discussed above, Appellants submit that the rejections in the *Examiner's Answer* are improper and should be reversed. Claim 9 is improperly rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Claim 9 is improperly rejected under 35 U.S.C. §103(a) as being unpatentable over *Tremblay* in view of *Cunha*. Furthermore, claim 9 is improperly rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of *Hong* in view of *Cunha*.

The Honorable Board is requested to reverse the rejections set forth in the final Office Action and direct the Examiner to pass this application to issue.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. § 1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

Dated: May 27, 2008

Respectfully submitted,

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Attachments